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JOURNAL

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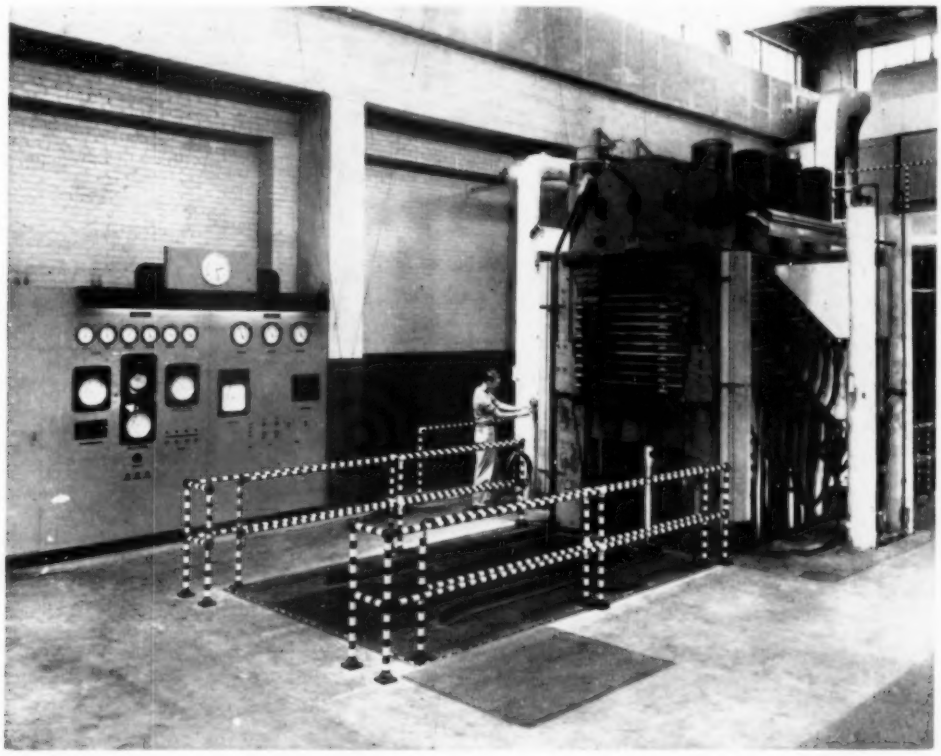

Installation of one of the world's largest laminating presses at The National Plastic Products Company, Odenton, Maryland. The system is designed for a fully automatic heating and cooling cycle utilizing a liquid heat carrier, and operating through a heat accumulator. The heating and cooling system was designed and installed by American Hydrotherm Corporation of New York. Instruments by Foxboro Company. Press manufactured by A. B. Farquhar Company of York, Pennsylvania.

PUBLISHED BY THE SOCIETY OF PLASTICS ENGINEERS, INC.

A Complete Line of Plastics Molding Machinery

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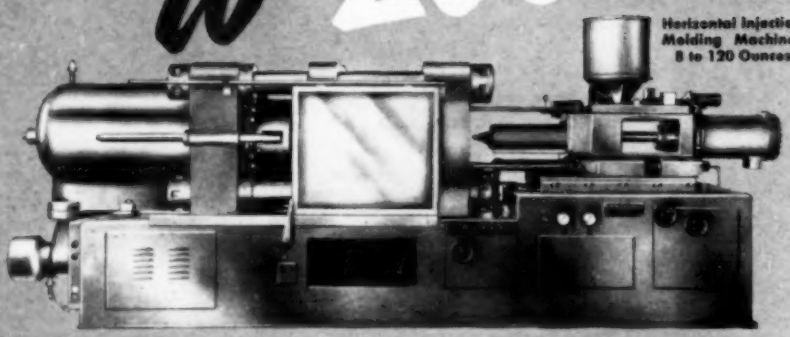

. . . and, all are obtainable from one source of supply—Watson-Stillman.

Since the very inception of the industry over 50 years ago, Watson-Stillman engineering ingenuity has paced the industry, year after year, with outstanding plastics molding machinery advancements.

Today, from the W-S "COMPLETELINE" of Injection, Transfer and Compression Molding Machines, you can select a model to fit every production requirement—large and small.

And, W-S offers many additional services. Mold designs, material selection, operation, maintenance, plant layout, are all subjects about which W-S is in a particularly good position to give advice to its clients as a part of its "COMPLETELINE" service.

When planning plant extension or a new business, consult W-S *first* about plastics machinery and how to use it.

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2—Vertical Injection Molding Machines—1, 2, and 4 ounces.
3—Preform Tableting Machines—10 and 100 Tons
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Personals

Continental Can Company, Plastics Division, has announced the appointment of **Arthur L. Smith** as manager of research and development.

Prior to joining Continental Can Company, he was a group leader in the Research and Development Laboratories of the Rohm and Haas Company in Philadelphia, Pennsylvania. He was in charge of application development of low pressure laminating resins and adhesives.

Harold M. Parsekian, Manager of Vinyl Sales, Naugatuck Chemical has moved to make his headquarters at Naugatuck, Conn.

Richard K. Opper is appointed to Assistant Sales Manager of Rubber Chemicals for N. C. D., **Mr. Howard G. Ling** will replace Mr. Opper in Chicago District; **David E. Welch** will replace Ling in New York area and make his headquarters in Lumberville, Pa.

Thomas Fitzgerald has been appointed Sales Manager of Reclaimed Rubber for N. C. D.

Elmer H. White has been promoted to Adviser to the President, the Executive committee, general manager of sales, sales promotion, and distribution, in Footwear and General Products Division.

John C. H. Wendes named as Production Engineer of N. C. D. and supervise the manufacturing and engineering operations in the rubber plants operated by the division in Naugatuck, Port Neches, and Borger, Texas. He will also supervise manufacturing and engineering activities in the Marvinol Vinyl Resin Plant in Painesville, Ohio, and Naugatuck.

Gustave F. Mattman, President of The Cincinnati Advertising Products Company of Cincinnati, Ohio, announces that **Henry B. Potter** has joined this organization and has assumed complete charge of operations as General Works Manager.

George Lawrenson (Applied Plastics) is now back on the job after several weeks in the hospital, followed by a gradual period of recuperation. Looking as well as he does, there seems to be no need to be concerned over the pounds he lost.

Rodney Lundwall has just been assigned the responsibility of tool room foremanship at Nosco Plastics. Rod will do well in this new position of responsibility, especially since his entire experience has been concentrated on injection molds.

SEE YOU IN NEW YORK!

JOURNAL

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The Society of Plastics Engineers Journal is not responsible for the views expressed by individual contributors. All material submitted must be received not later than the fifth of the month for publication in that month. Communications should be addressed to Dr. Jesse H. Day, Society of Plastics Engineers Journal, Athens, Ohio.

G. H. Mains Is Judge Too!

Camera-shy Gerald H. Mains finally consented to let us use his picture. Long in the plastics industry, well-known and liked, Gerald Mains is serving as one of the judges for the SPE Prize Paper Contest, together with such other authorities as Jean Reinecke, Carl Frosch, Robert Chollar and Albert Dietz whose pictures graced last month's cover.

Mr. Mains has served the U. S. Department of Agriculture, and was in charge of development of phenolic laminated products with Westinghouse Electric. Since 1934 he has been with National Vulcanized Fiber as development engineer in charge of phenolic research and development of thermosetting laminated products. He is the author of numerous papers, and eminently qualified to act as judge for the SPE Prize Paper Contest.

A.S.T.M. STANDARDS ON PLASTICS

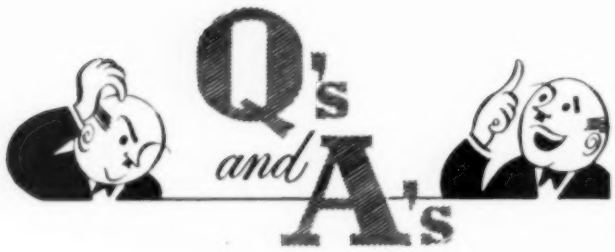
The fifth edition of A.S.T.M. Standards on Plastics (as of June, 1950)—sponsored by Committee D-20 on Plastics in cooperation with Committee D-9 on Electrical Insulating Materials—presents in convenient up-to-date form some 120 A.S.T.M. specifications and test methods covering a wide range of plastics and related materials. This compilation contains much new material.

Specifications cover: molding compounds (phenolic, polystyrene, melamine and urea formaldehyde, cellulose acetate-butyrate, vinyl and vinylidene chloride, ethyl cellulose, methacrylate, nylon injection, etc.); nonrigid plastics (vinyl chloride-acetate and butyral); phenolic laminated sheet and tubing for radio applications; enclosures for small testing machines and serving units for tests at subnormal and supernormal temperatures of electrical insulating materials and plastics; etc.

Numerous methods of test cover the following properties of plastics; strength; hardness; thermal; optical; and permanence. Other test methods cover: sheets, tubes, rods, and molded insulating materials; conditioning of plastics; analytical methods; molds and molding processes for plastics; and electrical tests.

The compilation includes 11 **recommended practices.** In addition there are definitions of terms relating to plastics; descriptive nomenclature of objects made from plastics; and code for designating form of material and direction of testing plastics.

Copies of this 624-page book, heavy paper cover, can be obtained from American Society for Testing Materials, 1916 Race Street, Philadelphia 3, Pa., at $4.85 each.



IN SHOP PRACTICE

This column will answer all problems whose solutions are not in violation of trade ethics and which do not trespass on restricted techniques.

PROBLEM 7

We are manufacturers of polyvinylchloride extruded products and are interested in the manufacture of beverage tubing. We are seeking information on the relative toxicity of various plasticizers and stabilizers, both alone and when incorporated in a vinyl resin formulation. We are primarily interested in toxicity data on the following plasticizers and stabilizers:

Dioctylphthalate; Glyptal 2557 (manufactured by General Electric Company, Chemicals Department); Paraplex G-60 (manufactured by Rohm & Haas Company); Hylene D (di-n-decyl-adipate—manufactured by E. I. duPont de Nemours & Co., Inc., Wilmington, Del.); No. 52 and No. E6B Stabilizers (manufactured by Advance Solvents and Chemical Company); Nos. 221 and 121 Stabilizers (manufactured by Ferro Chemical Company); Barium ricinoleate.

Any information that you can give us or any recommendations on a source of authoritative information on the toxicity of these materials will be highly appreciated.

ANSWERS: PROBLEM 3

This has to do with "problem 3," page 4, June 1950 issue, where the correspondent is desirous of forming a "coating having the physical properties of rubber used on printing rolls."

About 5 or more years ago I was acutally engaged in developing a cast roll of a **Vinyl plastisol** instead of a **coating**, and, it was made of the now conventional plasticized Vinyls to form a plastisol.

The results were indeed gratifying, but here and there were seen "pin holes" and to avoid this we had to resort to casting under pressure or by means of centrifugal means.

If your correspondent will contact me, I will gladly help a "fellow worker." (signed; S. Wein).

ANSWERS: PROBLEM 4

In answer to problem 4, published in the September issue, in which a manufacturer finds that menthol tends to disappear from polyethylene containers: after having talked with an authority I have the following suggestions to make. First test whether the container is responsible by putting some menthol alone into it and seeing if the menthol disappears. If it does, then check the seal, or opening. If it appears that the polyethylene is responsible for the menthol loss, there is little likelihood that another plastic would be much better, although it would be worth while investigating trifluorochloroethylene to see if it can be shaped into proper form.

TECHNICAL CONFERENCE

"PLASTICS SHAPE THE FUTURE" will be the theme of the Seventh Annual National Technical Conference of the Society of Plastics Engineers, Inc. The Conference will be held on January 18 to 20, 1951, at the Hotel Statler, New York, New York.

Following this theme, the technical papers to be presented at the Conference will review achievements in plastics during the past 50 years, and predict the course of developments during the coming half-century in plastic materials, machinery, processing methods, and applications. Open to all persons in the plastics and allied industries, the Conference is expected to attract a record attendance of technologists from all parts of the United States and many foreign countries.

The Conference is being sponsored jointly by the New York and Newark Sections of the Society which have set up committee to handle all arrangements. James T. Growley, Celanese Corp. of America, and Stanley Bindman, Gemloid Corp., are co-chairmen of the committee; William M. Preston, Koppers Co., Inc., is Secretary; and William Lewi, Dusal Tool and Mold Co., is Treasurer.

Plans for the Conference are progressing rapidly, and the following sub-committee chairmen have been chosen:

Program: Arthur S. Jacobs, Renwal Mfg. Company

Reception: E. Kirby Preston, Koppers Co., Inc.

Reservations, Registration and Information: Bruno E. Wessinger, Wess Plastic Molds, Inc.

Company Registration: G. Palmer Humphrey, G. P. Humphrey Plastics

Prize Papers: Carl J. Frosch, Bell Telephone Laboratories

Finance and Budget: Sam Silberkraus, Riverdale Laboratories

Ladies' Entertainment: Saul Blitz, Noma Electric Corporation

Luncheon and Banquet: Martin J. Voegtlen, Celanese Corp. of America

Printing: George Baron, Ideal Plastics Corp.

Publicity: Arthur M. Merrill, "India Rubber World"

The SPE is an internationally recognized plastics engineering organization, and numbers over 2,200 members contained in 27 local sections throughout the United States, Canada and Mexico. National Officers of the Society are: president, C. Todd Clark, F. Burkart Mfg. Co., St. Louis, Mo.; vice-president, Islyn Thomas, Thomas Mfg. Co., Newark, N. J.; Secretary, R. L. Davis, Continental Can Co., Cambridge, O., and treasurer, W. O. Bracken, Hercules Powder Co., Wilmington.

7TH SPE ANNUAL MEETING
and
TECHNICAL CONFERENCE
January 18, 19, 20
at the hotel Statler
New York City
"PLASTICS SHAPE THE FUTURE"

COLORANTS FOR PLASTICS

By B. J. MAYO, JR.

Imperial Paper & Color Corp., Boston, Mass.

Plastic, as everyone knows, means capable of being shaped or molded. This term, therefore, embodies a tremendous amount of materials that are being used at the present time for producing an endless list of items from gadgets to radio cabinets.

Although the growth of the industry has been phenomenal, it is apparent that certain companies have been content to use poor raw materials, including colorants. This led to quick sales at a nice profit with no regard for the future. Naturally, not all of the low grade production was by design but many times was due to the lack of more dependable raw materials, including colorants. Regardless of the cause, it made the buying public more wary and eventually the demand for better quality landed in the chemists' laps. The color industry recognizes the potential volume in the ever growing plastic industry, but there has not been a color developed that will answer for every requirement, and our job is to see that every chemist is familiar with the available types so that he can use them to best advantage.

There has been considerable work done in late years in the making of colors with additional strength due to smaller particle size without affecting the tone of the color. Another advancement is in the treatment of the pigment particles so that they do not strongly adhere to one another thereby making it a difficult operation during the milling with the plastic or plasticizer to produce a smooth uniform dispersion of full color strength free from color specks. This has been particularly helpful to the plastics trade where quick dispersion with a minimum of milling, etc., is desirable.

The molder often questions as to whether it would be better to do his own coloring or to buy the base material all colored. This resolves itself into a question of economics and something that each molder should decide for himself.

Basic material suppliers of precolored plastic material do a very thorough job in checking into color for plastics and it would seem that their overall research and manufacturing facilities should work to advantage for the relatively small plastic molder. On the other hand, it would mean much less inventory of raw material stock should the molder buy uncolored base stock and do his own coloring.

Both dyes and pigments have their advantages for coloring plastics, and it is a question of finished product requirements as to best colorant to use. Certainly to be competitive, it is important to consider cost and use the cheapest color as long as it will meet the specifications.

Heat stability, lightfastness, dispersibility, bleeding and crocking are the most important things to consider when selecting a color for a certain end use. Carelessness in selecting the wrong colorant leads to customer dissatisfaction and perhaps ultimate loss of business. **The all-important matter of loss of prestige to the entire industry is not to be overlooked because a product that falls down in usage many times is a black mark against the whole plastic industry, which is more serious than the effect on any one company.**

Good Heat Stability—needed to get uniform production.

Good Lightfastness—needed to keep finished product reasonably similar to new production, even after sun exposure.

Good Dispersibility—needed for color value, uniform production from a shade standpoint. Pigment does not depend on solubility and therefore should disperse readily. Dyes are truly soluble and usually disperse well.

Non-Bleeding—Staining of adjacent plastic coatings such as wire cables must be avoided.

Non-Crocking — Rubbing off of color due to migration, etc., is very objectionable usually.

Although we have referred to failures of plastic products, at least some of them are due to lack of availability of suitable colors. The color industry was handicapped during the war because many chemists were in the armed services, but it is to be hoped that new colors will be available to the plastics industry to help them on their many problems arising daily.

In selecting colors for plastic usage, when shade permits it is well to use inorganic color whenever possible, and fill in with organics. For very transparent effects, dyes must be used; whereas certain pigments can be used for translucent effects and any pigment will do for opaques.

Because of the wide range in processing temperatures of the various plastics molded, and the inconsistency of results obtained, it is well to submit samples of various colors that offer promise and each molder can decide for himself whether the color will answer or not.

Colors recommended for molded products are as follows:

Iron Oxides and earth colors, whenever possible. Carbon and Lamp Black are very necessary for producing blacks, browns, etc.

Chemical Pigments:

REDS—The Calcium and Barium precipitated Azo pigments containing a sulpho group in the amine which is coupled to a naphthol or to beta oxy naphthoic acid. Red Lake "C"; Lithol Rubine; Lithol Toner; Pigment Rubine Toner (Calcium salt of Permanent Red 2B); BON Rubines; Pigment Scarlet; Cadmium Red; Alizarine Red and Maroon Lakes; Thio Indigo Maroon.

ORANGES — Molybdate Orange; Benzidine Orange; Cadmium Orange; Chrome Orange.

YELLOWS — Cadmium Yellow; Strontium Yellow; Chrome Yellow.

GREENS — Phthalocyanine Green; Hydrated Chromium Oxide Green; Chromium Oxide Green; (yellow and blue combinations).

BLUES — Phthalocyanine Blue; Ultramarine Blue; Indanthrene Blue.

Dyes used: Nigrosine, Oil Soluble Red, Anthraquinone Blue, etc.

Dyes are seldom, if ever, used for vinyl coated fabrics or vinyl sheetings.

Most of the above colors are used for vinyl sheetings and coatings except Red Lake "C", and Lithol Toners, which normally are not used because of deficiency in lightfastness.

Selection of proper ultramarine blue is important to insure stability of film.

Every compounder will undoubtedly agree that the selection of stabilizer has an important bearing on color retention results.

Crocking and crazing present problems in the usage of some colors, particularly in upholstery production. These have to be worked out by the individual company to meet specific requirements.

Chrome greens work out well for coated fabrics. Iron blue is used to some degree, but heat stability in processing and film integrity of exposed coating should be checked into before going into production.

Iron blue is used with good success in extrusion operations such as wire coatings.

Unsupported film coloring is more of a problem because clean undertone colors are required. Color concentration is often very low which means lightfastness is an important factor. Organic pigments are generally light stable in direct proportion to concentration used.

HOW TO MAKE A PURCHASING AGENT HAPPY IS TOLD AT ROCHESTER MEETING

By C. F. VAN EPPS

Mr. David Rogers, Purchasing Agent of Stromberg-Carlson Company, discussed at considerable length the problems of a purchasing agent from the standpoint of proper design and adaptation of plastics. He praised plastics in relation to cost and ability and his complaints were aimed generally at the design engineers and the molders who undertook jobs which had reasonably obvious "bugs" in them. He regretted the fact that the general terminology and involved technology of plastics was so abstract that the layman has no conception of the suitability of plastics for most purposes. Packing, shipping, and handling in the plant were stressed as important considerations of the plastics engineer if the ultimate cost of using plastic parts is to be fairly compared with metals or alloys. Mr. Rogers concluded by remarking that the purchasing agent was at the mercy of his plastics engineers, the extent of cooperation received from the molder, and the uniformity of materials supplied by the plastic manufacturer.

Peter Wight, Assistant Purchasing Agent of Bausch & Lomb Optical Company began by praising the plastic suppliers for the effects of their competitive prices and the general downward trend of plastic prices at a time when steel and alloy prices are on the uptrend. Mr. Wight proceeded to further condemn the industry for not producing a simplified nomenclature and for not providing concise and readily understandable date relative to the properties and proper applications of plastics. Mr. Wight stated that a salesman's display of toys, novelties, gimmicks could hardly be a good advertisement for a precision molded optical part.

Mr. Wight outlined what he, as a purchasing agent, expects of the vendor: **courtesy**, or an agreement in details between the buyer and the seller including the prompt handling of orders and notification to the purchasing agent when plant schedules are unavoidably interrupted; **ability** to produce, in respect to assistance with the design of molds, recommendation of raw materials, and various other services which aid in obtaining a satisfactory product. **Service** from the supplier should include in addition to "parts on time," general suggestions for the proper use of plastic parts. **Honesty** includes a knowledge of the product and a background of experience and integrity which encourages the purchasing agent to call back for repeat orders.

General discussion was conducted for over an hour during which points were discussed such as the ability of small plastic parts manufacturers to provide engineering services demanded by the purchasing agents. The question of poor plastic design was freely admitted in many instances. The work of S.P.I. and S.P.E. in developing suitable nomenclature and engineering data was reviewed. Many samples of molding problems including packaging and handling were discussed.

NEW YORK STARTS SEASON WITH BUSINESS MEETING

By A. M. MERRILL

The New York Section began the new season with its annual business meeting, held on September 20 at the Hotel Shelburne. The meeting was preceded by a cocktail hour and dinner.

Vice president G. Palmer Humphrey, G. P. Humphrey Plastics, presided over the meeting. Following the success of the group's initial Christmas party last year, it was decided to hold another party on December 20 at the Hotel Shelburne. Arrangements for the party will be handled by a committee under the chairmanship of Winslow A. Ward, American Cyanamid Co., and including Martin Voettlen, Celanese Plastics Corp.; Walter Merck, M. W. Kellogg Co.; and Nicholas V. Fasano, Washington Molding Co.

Following the business session there was a showing of the American Cyanamid Co. film, "Bull in a China Shop," dealing with melamine tableware. Table favors were distributed to all at the meeting through the courtesy of R. C. Molding Co., and the evening ended with a drawing for door prizes contributed by Riverdale Laboratory and A. Bamberger Corp.

Continuing the pattern established early this year, the Section will hold dinner meetings on the third Wednesday of each month at the Hotel Shelburne. The next meeting, on October 18, will feature a talk on "Application of Low-Pressure Polyester Resins" by Dr. J. D. Robinson, Stamford Research Laboratories, American Cyanamid Co.

On November 15, the New York Section will be hosts to the Newark Section at a joint dinner meeting. Highlighting the meeting will be a talk on "Application of Speed Nuts to Plastics" by H. R. Russell and William Buttriss, Tinnerman Products, Inc.

W. NEW ENGLAND

Approximately 45 members and guests attended the October 4 meeting of the Western New England Section held at the Sheraton Hotel in Springfield. Mr. Ray Mazure won the door prize of molded dishes. A short business meeting was held, followed by the feature talk of the evening.

Mr. R. D. Sackett and G. W. Ingle of Monsanto Chemical Company discussed "Dry Coloring of Polystyrene."

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TRIFLUOROCHLOROETHYLENE POLYMERS

By LOUIS C. RUBIN

Kellog Corporation

A relative newcomer to the commercial plastics field is KEL-F. This is the trade mark for a series of polymers of trifluorochloroethylene ranging from oils liquid at normal temperature to waxes, to high molecular weight, high temperature thermoplastics. These materials are characterized by their chemical inertness attributable to the absence of hydrogen and unsaturation in the polymers, and for the thermoplastic materials by their wide range of use temperature (-320°F. to +390°F.), excellent mechanical and electrical properties, and ease of molding.

Properties of KEL-F Plastic

As mentioned above, KEL-F is extremely inert chemically. No effect has been observed after prolonged exposure to concentrated sulfuric, hydrofluoric and hydrochloric acids, to strong caustics, to fuming nitric acid, aqua regia and other vigorous oxidizing materials.

Highly halogenated organic solvents and, to a lesser extent, aromatic solvents, tend to swell the fully quenched polymer when exposed to such solvents at elevated temperatures. However, the swelling does not result in solution or chemical reaction of the polymer but is more in the nature of plasticizing to give a softer, more flexible material.

The general and mechanical properties of KEL-F are outstanding. The tensile strength in unoriented sections of about 6000 psi and in oriented sections 30,000 psi, is excellent for a thermoplastic material. The low brittle temperature of (-120° F.) the high impact resistance (3.6 ft. lb. /in. notch), excellent abrasion resistance and high maximum use temperature (390°F.) combined with the fact that the KEL-F can be molded by established techniques, means that in KEL-F a material is now available for a wide range of applications not previously possible with established plastics.

The fact that no water vapor is transmitted is unique in an organic film. This lack of transmission of moisture vapor and the absence of water absorption combined with the chemical inertness opens up great application possibilities previously unattainable because no suitable material was available.

Molded sections up to about 1/8" in thickness are transparent to visible light. These suggest applications where transparency to various light sources is a factor, but at the same time physical properties are of major importance.

Tables I and II give results of various electrical measurements. These results show the material to be outstanding in electrical properties and wide range use temperature mean that in KEL-F we have a unique material for many electrical applications. In fact, the use of KEL-F in a number of electrical applications has been the solution to some long-time problems never before taken care of satisfactorily.

TABLE I
ELECTRICAL PROPERTIES

Volume resistivity, ohm-cm (50% relative humidity and 25°C.)	1.2×10^{18}
Dielectric strength, short-time 1/8" thickness, volts per mil	2500
Dielectric strength, step-by-step, 1/8" thickness, volts per mil	390
Arc resistance, sec.	360

TABLE II
HIGH FREQUENCY PROPERTIES

Dielectric constant, 60 cycles	2.3
Dielectric constant, 10^3 cycles	2.8
Dielectric constant, 10^6 cycles	2.5
Dissipation factor, 60 cycles	0.015
Dissipation factor, 10^3 cycles	0.024
Dissipation factor, 10^6 cycles	0.010

Molding

KEL-F plastic is currently produced in the form of low density molding powder and high density granules. The two materials differ primarily in bulk density, the former being about 19# cu.ft. and the latter about 60# cu.ft.

KEL-F plastic can be molded by conventional compression, injection, transfer and extrusion procedures. The essential differences in molding KEL-F and most other thermoplastic materials is that with KEL-F molding temperatures are appreciably higher being in the range of 500° to 600°F. depending on the particular operation. In general, electrical heating is required.

KEL-F sections, as one would gather from the foregoing, can readily be heat-sealed by application of heat and some pressure.

Heat Treating of Plastic

The physical properties of KEL-F can be varied in a manner similar to plasticizing by variation in heat treatment. A rapidly quenched piece gives a transparent, flexible section of moderate surface hardness, more or less typical of a plasticized material. If this same section is slow cooled from the molding temperature it becomes translucent, much less flexible and appreciably harder. Intermediate properties result if the molded item is held just below the transition temperature for a time and then slowly cooled. Typical data on change in hardness by heat treating show an increase in surface hardness of 7 to 9 numbers on the Shore scale after 24 hours at 383°F. Aging at elevated temperatures for longer than 24 hours apparently causes no further change in the material which indicates that long-time use at elevated temperatures should not cause continual increase in hardening.

Plasticizing of Plastic

As mentioned above, KEL-F can be swelled by highly halogenated organic materials. Since KEL-F oil is just such a compound it is useful as a plasticizer for KEL-F plastic. Furthermore, its inclusion does not reduce the chemical inertness of the KEL-F plastic. The decreased hardness shown over that obtainable by heat treatment of unplasticized material will be very advantageous for many uses.

Machining

KEL-F plastic can be readily machined with ordinary machine tools, and does not tend to chip or crack. Sheets may be readily punched or sheared up to about 1/8".

Suggested Applications

The outstanding properties of KEL-F plastic, its chemical inertness and moldability make it readily available for a wide variety of applications, particularly in the electrical, chemical and pharmaceutical fields.

KEL-F Film: KEL-F plastic is now commercially available in the form of thin films or tapes. These films and tapes can be provided in thicknesses ranging from less than 2 mils up to 8 mils and widths from any practical width for a slitting machine up to a maximum of 14". Figure I is a picture of typical layflat tubing with 3 mil walls.

These films are completely free of

pinholes which means that no multiple layers of the tape are required in order to assure complete insulation. Since, in the course of production the film is slightly stretched, a wound section can be tightened up by heating followed by cooling. The zero water absorption and zero water vapor transmission assure complete absence of moisture for a unit sealed in KEL-F film. The high tensile strength of 6000-7000 psi of the KEL-F films permits ready machine application without danger of tearing.

Electronic Sealing: Electronic sealing of KEL-F plastic in plasticized and unplasticized film has opened the field for the use of KEL-F in special fabricated forms such as large cylinders, expulsion bags, equipment liners, protective clothing, special packaging, etc.

Wire Coating: KEL-F plastic can be extruded onto wire so as to give a high temperature, high quality insulation. Wire so insulated can withstand relatively high loading at temperatures of 400°F. with negligible flow of insulation away from the point of load concentration.

Slot Insulation and Coil Separators: KEL-F plastic can be readily extruded in continuous lengths and subsequently cut in forms suitable for slot insulation or separators. Such production methods are consistent with high production rates required for this type of insulation.

KEL-F Molded Sections: KEL-F plastic has demonstrated outstanding properties for molded electrical parts where exceptional electrical properties, high temperature operation, low moisture absorption, tight seals, outstanding mechanical properties, and close dimensional tolerances are required.

Tubes and Rods: KEL-F plastic can be readily extruded in the form of heavy wall tubing with O.D.'s ranging from 1/8" up to 1". Such tubing can serve as slip-on insulation, corrosion resistant piping, or similar services.

Extruded rods of KEL-F plastic, ranging from ¼" up to 1½" in diameter, are available. Material in this form can be used as starting material where machined parts are required.

DRY COLOR METHODS AT W. NEW ENGLAND

By WESLEY LARSON

Mr. Sackett said that 240,000,00 lbs. of styrene would be produced this year, 60,000,000 lbs. of which are critical coloring applications and 160,000,000 lbs. of which are non-critical coloring applications, such as housewares and toys. He estimated that 60% of all jobs can be dry colored (although later in the question period, he claimed that there are no jobs that cannot be dry colored). The older methods of coloring were by roll mill, Banbury, and extrusion. Dry coloring involves merely the tumbling of the coloring agent with styrene granules before injection. P1X-6 is Monsanto's designation for the dry color blend; it is a finer grind than usual and has been surface treated to hold the coloring pigment. Some lubricant is also added. A simple end over end tumbler, such as Crown or U. S. Stoneware, is best. Cost of the color is from .1 to 1.1c per lb. of plastic. Color suppliers will furnish colors weighed in small lots. Best technique is to bury the coloring in the crystal powder and then blend in the drum. A 44 rpm blender for 20 minutes is a suitable cycle. The 55-gallon drum should be about ½ full or loaded with approximately 100 lbs. Details of the process and a list of colorants is presented in Monsanto's bulletin #60. Avoid dust build-up, especially of aluminum powder and use normal explosion precautions. Bronze and copper powder are not especially hazardous. Molding aids such as breaker plates or pineapples improve the dispersion of colors. One model had eight holes .040 to .060 inches drilled at 30° in circle to increase turbulence in the nozzle. H. Jamison and Gering make such discs for the trade. Models are made by adding the lesser color in colored granule form and the base color as dry color. Flourescents and phosphorescents are readily mixed and actually improved in brightness by day coloring. Total cost averages ½ to ¾c per lb. compared to 3 to 4c when bought as colored compounds. Advantages are savings in labor and reduced inventory.

Mr. Ingle talked about colorants and especially about the current shortages. Titanium dioxide is now very hard to get but will ease up next year. Substitutes can be zinc sulphide, zinc oxides, and antimony oxide. Lithopone, whiting and barium sulphate are suitable to produce diffusion. A complete list of colorants is given in Bulletin 60. Blender additives such as Blendeeze and Dispersol L help the color dispersion. Scrap should be segregated as well as possible by color and organic dyes used to salvage scrap. Preheat before molding is preferably done after coloring. Caking of molding powder after coloring is not a problem. Dry blending is okay for even critical color applications such as wall tile and refrigeration white.

This topic is very much of interest to the group and interesting discussion followed.

A PLASTICS ENCYCLOPEDIA

The Chemical Publishing Company, Brooklyn, N. Y. has recently brought out a book entitled, "A Manual of Plastics and Resins, in Encyclopedia Form" which is edited by William Schack and compiled by various members of the S.P.E.

The encyclopedia contains hundreds of short articles and definitions as well as full length articles on materials and processes. A person wanting to look up something about combination mold, flash, phenol, cellulose, buffing, jigs, ovens, etc will not have to wade through a long article in which these subjects are discussed by the way. The significant facts about each subject will be found under its own heading.

Another feature of the book is the articles on all end-use fields—automotive, electrical equipment, radio, etc—and a large number of individual products which do not readily fall into the well-defined end use groups, such as boxes, buttons, handles, phonograph records, webbing etc.

The Advisory Board for the encyclopedia is composed of J. Harry DuBois, formerly of Shaw Insulator Co., Russell B. Akin, E. I. duPont DeNemours Co., Inc., M. R. Gerow, Reynolds Metals Company, Henry M. Richardson, DeBell and Richardson, J. O. Reinecke, J. O. Reinecke and Assoc., R. V. Beshgetoor, Radio Corporation of America, Victor Div., J. J. Pyle of General Electric and Dr. H. Mark of Polytechnic Institute of Brooklyn.

The encyclopedia will be especially useful to end users of plastics materials, but at the same time it contains the essential data needed by plastics industry personnel—salesmen and service men, etc—for their own jobs and for a quick look at the rest of the industry.

Nearly half of the one hundred fifty contributors to this 547 page volume are members of the S.P.E. and represent seventeen different sections of the Society. Their articles are on a uniformly high level—freshly thought out, clearly and compactly written.

Klippings from Kozy

By WALTER KOZY
Chrysler Corp.

All you members (and nonmembers) that have been working on papers for the Prize Paper Contest should be winding things up about the time you read this. Papers should be in the hands of your local Prize Paper Committee by November 15. The Detroit Section committee chairman is Jack Totten of the Ford Motor Company. Detroit members send your papers marked to his attention at 19 Bennington Lane, Dearborn, Michigan. Prizes offered locally are: first prize, $50 Savings Bond; second prize, $25 Savings Bond; third prize, $10 Rubber and Plastics Handbook. Larger prizes are offered nationally.

Paul Lillis's resignation late last spring left the local section without a vice-president and short one director. This was remedied recently when the Detroit Board elected Al Stomp of Una-Craft Engineering, vice-president, and appointed Bill DeGalen, sales representative for Koppers, to complete Lillis's unexpired term as director.

Put Wolverine Plastics down as one of the fastest growing custom molders in the state of Michigan. Pressure of expanding business has prompted them into the acquisition of two new machines, a 16 ounce HPM and an 8 ounce Leominster, and has forced them into a plant expansion. R. G. Dailey, sales manager, also announces the opening of a new sales office at 210 Wolverine Building, Ann Arbor, Michigan. The company is active in the automotive, refrigeration, and toy molding fields.

S P E
7th ANNUAL MEETING
and
TECHNICAL CONFERENCE
January 18, 19, 20
at the hotel Statler
New York City

DRY COLORING OF PLASTICS DISCUSSED CLEVELAND CONTEST PRIZE $50

By Ren Morse

President Ward Van Orman of the Cleveland Section welcomed 50 members and guests to the first meeting of the new season at Kiefer's Tavern, 29th & Detroit Aves.

Wayne Anderson, vice-president, introduced the speaker of the evening Wayne Shray who came all the way from Kenilworth, New Jersey, to tell us about recent developments in dry coloring of molding materials. In concise and informative fashion Wayne told us about the development of Gering's Drycol. He pointed out that one of the big factors in dry coloring is the abrasive action of the plastic granules which actually reduce and disperse the colors during the blending or tumbling cycle. Restricted gating and use of a dispersion nozzle also helped achieve better mixing, and samples were shown of parts molded with Drycol which could not be distinguished from parts molded of compounded material. Dry coloring helps cut down on material inventories, since only crystal—if it can be obtained—need be kept on hand. He related how dusting and segregation had been overcome by the use of Blend-eze, a wetting agent which helps disperse the colors evenly through the batch, and which also adds a lubricant, so that the batch of home-dyed material has all the features of the compounded powders. In fact Wayne Shray gave us such a good talk that the master-at-arms appointed by the President did not have to use the small club he was given to wake up men who tended to doze, or to break up the little conversation groups which sometimes try to compete with the speaker.

M. W. Osborn, secretary, announced that Charley Blum of Case Institute had been chosen chairman of the local Prize Paper Contest. He indicated that a local prize of $50.00 was to be offered again this year, and that the deadline for the Cleveland Section was to be November 8th, to allow time for the local committee to judge the papers and still meet the November 15th deadline announced for the National Contest. Papers are to be submitted (6 copies required) to M. W. Osborn, B. F. Goodrich Chemical Company, Rose Bldg., Cleveland, Ohio, before Nov. 8.

Program for the October meeting will cover molding materials (how to get them, we hope) and the November meeting will be on the use of plastics in the Arctic. The annual Christmas party at Aurora Inn will be announced well in advance this year we were assured, as it has always been the high spot of our year.

TOLEDO HEARS ABOUT STYRON CONTROL

By E. H. JOHNSON

On September 20 the Toledo Section had the pleasure of hearing Mr. C. D. Gillmore discuss "Styron Control and Development." His practical approach to the subject combined with very clear delivery made the meeting most interesting and educational.

The meeting was held at the Toledo Yacht Club, with dinner and a business meeting preceding the technical talk.

Toledo's loss will be some other section's gain—our good friend and most enthusiastic member resigned from the Board of the Toledo Section last night. We refer to Mr. George Clark, a past president of the Toledo Section and National Group.

All of us wish George the best of luck and are sorry to lose him.

Mr. R. Dunham, of Owens Illinois, will take over the Program Committee work that Mr. George Clark has been handling and F. Rosenberger, of Plaskon, has been appointed to the Board to fill the vacancy created by Mr. Clark's resignation.

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DRY COLORING OF STYRENE AND USE OF BERYLLIUM-COPPER MOLDS AT NEWARK

By JOHN GROESBECK

A dinner meeting opening the Fall season of the Newark section of the Society of Plastics Engineers was held on Wednesday, Sept. 13th. Approximately 75 members and guests attended despite very wet weather. After the dinner, President Russell Akin announced that the first annual conference of the Technical Societies Council of N. J. would be held on March 12, 1951, at the Mosque Theatre, in Newark. Prominent speakers have agreed to talk on various topics of automotive engineering which have been chosen to appeal to chemists, metallurgists and mechanical technologists.

The first speaker of the evening at S.P.E. was Mr. S. E. Glick of Monsanto, who gave a very interesting talk on Dry Coloring of Styrene Molding Powder. This is a subject which present-day shortages has made very timely. It was stressed that the proper granule size crystal base was essential to good results. The end-over-end type of mixer run at 45 R.P.M. has been found to be satisfactory equipment for this process, especially when only one-half of the capacity of the drum is used. It was further recommended that explosion-proof motors be used, and all electrical equipment grounded. The advantages to be gained from the use of the dry-coloring process were lower ingredient cost, a reduction in total inventory requirements, and a more uniform color dispersion than was possible by any other method.

The second speaker of the evening was Mr. J. Koons of the Process Mold Company who spoke on Beryllium Mold Cavities. His talk was centered around samples of automotive medallions and industrial applications such as give-aways, which were passed through the audience for their examination. There were many examples of parts produced from beryllium cavities in quantities of millions of pieces, at an equipment cost only a fraction of that required for hardened steel molds. It was also stressed that beryllium cavities were being used in many instances where it was not economical to produce cavities by any other process.

The next meeting of the Newark section of S.P.E. was held on October 11th, at the usual time and place. Mr. Waggoner, Executive Secretary of the Premium Advertising Association of America, Inc., spoke on "How To Use Premiums In Your Business To Increase Your Sales and Profits." The other speaker was Mr. Ray Platow, Bell Telephone Laboratories, who spoke on Adhesives—Some Theoretical and Engineering Conceptions.

ERIE PLASTICS CAPACITY EXPANDING

By PAUL ROCHE

Kenneth Erwin, General Electric Co., has just been placed on active duty again with the United States Army. Kenny's reserve rank is that of Captain and he has been extremely active the last several years with the National Guard, prior to its reactivation as a part of the United States Army.

His many friends were very sorry to learn that **N. R. Reyburn** recently experienced the loss of his mother by death in Conn. Nat is Chief Engineer of Applied Plastics Div'n, Keystone Brass Works, and past president of the Northwestern Pennsylvania Section, SPE, Inc.

When this section was honored at its regular September meeting by the participation of Jim Wilson (Watson-Stillman) and Gordon Thayer (Dow Chemical) as speakers, the statement was reiterated that the Erie area is continually adding to its status as the center of the injection molding indusry. Consistent with this reasoning is the fact that added units of large press equipment are being made by Presque Isle Plastics, Quinn Berry Corp., Erie Resistor Corp., and Nosco Plastics, together with corresponding building extensions in each instance.

Consistent also with this trend has been the addition of corresponding facilities on the part of local tool sources, equipping themselves for more and larger type work. Expansions on the part of Berry Tool and Machine Corp., Byrd Tool and Mold Co., and Erie Die Co., are being consummated at this time, along with proportionately increased tool departments in the specific molding plants involved.

Perry Plastics Inc. of Erie has just added **Fred Kraft** to its expanding staff. Fred is well known in the industry and has been associated recently with Franklin Plastics and Venango Plastics. On the strength of this plug we hope that Fred will see fit to renew his status as an SPE member.

The appointment of **George P. Lehmann** to the post of general sales manager has been announced by the Plastics Division of Continental Can Company, Cambridge, Ohio.

Mr. Lehmann, who assumed his new duties August 1, was formerly with the Plastics Division of General Electric. A native of Omaha, Nebraska, and a graduate of Iowa State college, Mr. Lehmann has been a contributor of technical articles to magazines in the plastics field.

PREXY AT MIAMI

Joint ASME Meet Planned

By JOHN L. RUSSELL

John Vlahos, C.P.A. talked to Miami Valley Section, Society of Plastic Engineers, Inc., at its regular meeting on October 5 at the Wishing Well, Centerville, O. A dinner preceded the evening's program which was arranged by Walter Oelman, our National Director. Mr. Vlahos' talk was "Cost Accounting as Pertains to Industry." The subject matter was of extreme importance and interest to those members concerned with costs in molding plastics.

Miami Valley Section will unite with the Dayton Section, the American Society of Mechanical Engineers (A.S.M.E.) for a joint meeting on Wednesday, October 25 at the Engineers Club, Dayton, at 8 p. m. Two speakers will present "Plastics as an Engineering Material" — Thermosetting, Victor Reiling, Kurz-Kasch, Inc.; and Thermoplastic, Byron Nelson, National Cash Register Co. This will be the second meeting of the month for SPE members.

Plans are underway for a meeting on November 9 that will feature a symposium on 1-step resin molding phenolics.

At the Board of Directors meeting on September 15, the following were approved as new members: Fred Ahlquist, Henry A. Kazmier, Frank Strobino, Carl L. Ackerman, William C. Koenig. Henry B. Potter has been transferred to Miami Valley Section. A most cordial welcome is hereby extended to all of these men who we hope will become active in SPE affairs.

We are pleased to know that Frank Schneider, formerly Treasurer and a Director of Miami Valley Section and associated with Inland Div., G.M.C. in Dayton is now active in plastics work at General Industries, Inc. at Elyria, O.

Our members were honored on September 7 by the presence of Mr. C. Todd Clark, National President. On the occasion of our first fall meeting and annual NCR Old River Park outing. A miniature golf tournament was participated in by all of the members. "Lefty" Dave Lucid, the Inland Div. putter was low man with a score of 57.

It was a big day for our National President, who was the featured speaker explaining how we can help the National Organization in creating interest in the introduction and solution of "shop problems" and how we can maintain more individual interest in local chapter meetings. After dinner a large birthday cake was presented to Mr. Clark.

Section Notes

BUFFALO

Members met at 7:00 for dinner at the Park Lane Restaurant and meeting following at 8:00 p.m.

A panel discussion of "Dimensional Stability of Plastics" was held with the following panel Members. J. Clark Cassidy, Durez Plastics was moderator; Ellis C. Knobloch, Production Manager, Spaulding Fibre Co.,—Laminated Plastics; A. T. Bryant, Tool Engineer Norton Laboratories, Inc.—Thermosetting Plastics; Charles Ferree Superintendent, Sterling Molders, Inc.—Thermoplastics. Each member of the panel discussed dimensional stability characteristics in his particular field. The subject was then thrown open for general participation.

As a new regular meeting feature—a short history of a local company in plastics together with a display of its products will be an added interest for all members. At this meeting Cox Plastics Corporation was the "guest company."

On November 16, the Buffalo Section will join with the Technical Societies Council with the topic "Plastics, the Story of a New Giant in Industry, Brought to Date."

EASTERN NEW ENGLAND

The first meeting of the Eastern New England Society of Plastics Engineers was held at the Hotel Vendome on Thursday, October 5, 1950 at 6:30 P.M.

The speaker for the evening was Mr. Charles Goyette of the International Stencil and Finishing Company, Pawtucket, Rhode Island. Mr. Goyette's subject was "The Art of Decorating Plastics."

We welcome the following men since our last meeting: Mr. Philip D. Balcom, Abrasives Products Company; Mr. Theodore Underwood, Standard Tool Company; Mr. Harold Kavanagh, Standard Tool Company; Mr. William D. Cochrane, Carbatex Chemical Company; Mr. Wilbur H. Whitty, Whitty Engineering Company; Mr. Marshall Hewson, Melrose, Massachusetts.

ROCHESTER

Members met at Towne Tavern at 6:30 for dinner and meeting following afterwards at 8:00. The subject for the evening "What Purchasing Agents Look For in Satisfactory Plastic Suppliers" was discussed in detail by W. B. Wright, Asst. P. A., Bausch & Lomb Optical Company and D. N. Rogers Purchasing agent, for Stromberg Carlson Company.

A meeting of the Board of Directors was held at 6:00 P.M.

ST. LOUIS

By Dan Otto

The St. Louis Chapter of Society of Plastic Engineers held their September 23rd meeting at the Melbourne Hotel, at which our speakers for the evening were from the U. S. Rubber Company. The subject was their thermoplastic sheet product "ROYALITE". The company was represented by Mr. W. E. Faulk, Mr. D. W. Reed, Mr. R. L. Thompson, Mr. J. K. Johnston and Mr. Jack Rogers.

They had on hand quite a display of products made of "ROYALITE" by Fabricators all over the United States, over one hundred items in all.

The attendance was just about double normal and it certainly was a very good meeting from every standpoint. The results of the meeting should prove mutually beneficial to the fabricators in this area as well as to the U. S. Rubber Co.

The St. Louis section has been cooperating with the associated retailers of St. Louis and the St. Louis Board of Education and are sponsoring a course entitled "Selling Plastics." Classes started September 19th. Courses available with several members of SPE working as instructors are Business Law for Retailers, Buyers' Arithmetic; Credit and Collections; Economics of Retailing; Human Relations; Interior Decorations; Merchandising and Buying Techniques; Practical Psychology for Retailers; Public Speaking; Retail Selling; Selling Plastics.

WESTERN NEW ENGLAND

The first fall meeting of the western New England Section met at Hotel Sheraton, October 4, at 7:00 P.M. "Dry Coloring of Styrene" by R. D. Sackett Technical Service Department, and G. W. Ingle, Group Leader Research Color Lab, of Monsanto Chemical Company was the subject for the evening. Discussion for future programs was held following the speakers.

GOLDEN GATE

First fall meeting was held on September 28th. Guest speaker was Jack Shaw, Associated Radio and Television Sportscaster.

President Clark Robinson announced that the meetings for the coming year are to be held on the last Thursday of each month.

CHICAGO

The members met at the Skycrest Country Club at 12:00 Noon on September 22nd for their second plastics golf party. Many prizes were awarded and dinner was served at 7:00 P.M.

NEW STOKES ITEMS

F. J. Stokes announce a new Model 25S Plunger Molding Press designed for molding a wide variety of plastic parts. Pieces of substantial size are possible with the 25 ton transfer ram and 125 ton clamping pressure.

A moisture free storage box for punches and dies for both B-2 and BB-2 Rotary Tabletting presses has been announced by F. J. Stokes. The box is compact in size—17" long, 6½" wide, 7" deep.

A new drum sling for filling hoppers of molding and tabletting presses is announced by F. J. Stokes. This drum sling is especially valuable where a great deal of material must be handled and it also reduces the material loss and minimizes the dust problem.

Complete information from F. J. Stokes Machine Company, 5900 Tabor Road, Philadelphia, Pa.

THERMOCOUPLE GLAND

The Conax Sales Company, Inc., Kenmore 17, New York has announced a new bare wire Thermocouple Gland. This bare wire Thermocouple Gland provides greater accuracy, quicker, interchangeable parts which permit the use of any thermocouple wire to meet the exacting requirements of temperature measurement and control of gases, vapors and liquids in a closed vessel.

BELLOWS PUMP

The Research Appliance Company has just started marketing a Corson-Cerveny micro-Bellows Pump. This pump is primarily developed for laboratory scale pumping of materials which are liquid at room temperature but can be adapted to pump low boiling liquids such as pentane and melted solids (e.g. naphthalene) and viscous materials.

Further information can be obtained from Research Appliance Company, Box 443 West View Road, Pittsburgh 9, Pa.

HEAT SEAL PAPER

A new instantaneous heat seal label paper, specially designed for permanent adhesion to all types of cellophane, cellulose acetate, glass and paper, called Promset 201, has been announced by Mid-States Gummed Paper Company.

Promset 201 is available either in flat sheet or roll form, and the heat seal film is smooth and dull white. This Promset 201 is available from Mid-States Gummed Paper Company, 2515 South Damen Avenue, Chicago 8, Illinois

GLAZING CODE CHANGED

American Standards Association has announced the first revision in 12 years of its code governing materials used for automobile windows. Officially called the ASA Code Z26.1-1950 for Safety Glazing Materials for Glazing Motor Vehicles Operating on Land Highways," the code's main change is its provision of specifications under which safety plastics as well as safety glass may be approved for use in automotive glazing.

PRODUCT DESIGN

Hercules Powder Company has published an attractive eight page booklet featuring suggested designs for handles for kitchen tools and flatware which is being distributed to manufacturers of kitchen equipment and small housewares. Sundberg-Ferar, industrial designers, are working with Hercules on this promotion.

Hercules Powder Company has prepared a new booklet on "Planning Better Products With Herocel E," presenting suggested new designs for a variety of plastic products which include tools, office furniture, housewares, and sporting goods. Sundberg-Ferar made the original sketches.

TEETHBRUSH?

Complete information on the Carlson Machine which automatically drills and fills 10,000 12-Tuft Toothbrushes per day can be obtained from Carlson Tool and Machine Company, Geneva, Illinois. This machine is called the Model No. 15, Continuous Automatic Toothbrush Machine.

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Industry Notes

NEW VINYL STABILIZERS

Claiming outstanding heat and light stability, clarity and improved life of product, Advance Solvents & Chemical Corp. announces two new stabilizers for the vinyl plastics industry.

Designated as B#52 and B#21, these stabilizers are described in the following terms.

Stabilizer B#52—A new organo-tin stabilizer that yields outstanding heat and light stability in all types of vinyl chloride and copolymer resins, and distinctly improved clarity. It is a low viscosity liquid permitting easy incorporation into resins. The stabilizer is therefore ideally suited for transparent film work, including rigid vinyl sheeting.

Stabilizer B#21—An ideal heat and light stabilizer for straight polyvinyl chloride polymers. It is a mobile, easily-incorporated liquid. Stabilizer B#21 differs from the usual metal salt stabilizers in that it combines the stabilizing action of cadmium with a radical that is a powerful acid acceptor.

New data sheets describing these products and their influence in bettering vinyl plastics may be obtained by writing Advance Solvents & Chemical Corp. 245 Fifth Ave. New York 16, N. Y.

WET BURNISHING

A new development for wet ball burnishing and polishing—the completely automatic Tumb-L-Dur Burnishing machine—is covered in a new bulletin issued by Lupomatic Industries, Inc., 4510 Bullard Ave., New York.

Most important feature of this new machine is the molded Tumb-L-Dur barrel, made from an exclusive material that is revolutionary in its advantages. This barrel has an exceptionally long life. The same rugged service that can wear out a wood barrel in 3½ to 4 weeks has not affected a Tumb-L-Dur barrel in use for more than 1½ years. Another important advantage in the new bulletin is Tub-L-Dur's ability to resist warping. Barrels made of this material may be kept out of water when not in use, without damage. Because of Tumb-L-Dur's extra strength, thinner barrel walls can be used, resulting in increased capacity.

A copy of this new bulletin—No. TDB-50—may be obtained by writing directly to Lupomatic Industries, Inc., 4510 Bullard Avenue, New York 66, New York.

SAW FOR PLASTICS

The F. Heinemann Saw & Mfg. Co. of Canton, Ohio has designed a new Heinemann All-Purpose Circular Saw which has same temper as an ordinary wood saw, the difference being in the teeth, which are extra hardened by a special heat treating process. It is adaptable for cutting plastics and wallboard.

HEAT USE BULLETIN

"Temperature Measurement and Control" discusses heating methods and controls and is a good basic reference for process engineers. Topics covered include circuits and heating arrangements, heat sources, basic concepts and definitions, control types, etc. This 24 page pamphlet may be obtained free by writing for Bulletin 101 to the Partlow Corp., New Hartford, New York.

PRICE DROPS IN ACRYLICS

Sharp price reductions, some in excess of 27 percent, have been announced as of June 1 by the Resinous Products Division of Rohm & Haas Co. on four of its line of Rhoplexes—acrylic resin emulsions used widely in the coatings, rubber and paper industries. The Philadelphia chemicals manufacturer asserted that the new prices were designed to make these emulsions available to a wider market and to stimulate increased sales volume.

The four emulsions involved are Rhoplexes WN-80, FRN, ER, and WC-9. Rhoplex WN-80, which has been the most drastically reduced, deposits a flexible, extensible, grease-resistant, colorless film, useful as a water resistant coating for paper and wallpaper, in asphalt sealers, etc.

NEW PLASTICIZERS HERE

Commercial production of a new line of synthetic organic chemicals, consisting of a variety of plasticizers used in the compounding of resins, rubber, and paint, is now under way at the recently completed plasticizer division plant of Pittsburgh Coke & Chemical Company. The new facilities at Neville Island, adjacent to the company's phthalic anhydride and tar acid refining operations, manufacture several phthalate and phosphate type plasticizers, a number of esters of adipic and sebacic acid, and various specialties including polymeric type plasticizers.

PRODUCT BOOK AVAILABLE

Complete data on uses of the Paraplex "P" series resins in the laminating, molding, potting and casting fields are presented in a 24-page booklet newly published by the Resinous Products Division of **Rohm & Haas Co. The Paraplex "P"** series resins are solutions of polyester resins in styrene, commonly called "polyester resins," or "low-pressure" or "contact" resins. Seven pages describes approved methods of laminating, molding, casting, fabricating, cementing, caulking and impregnating with these resins, and suggest a large number of products for which they are suited. Copies are available from the manufacturer at Washington Square, Philadelphia 5, Pa.

ALKYL PHENOL ANNOUNCED

A new alkyl phenol has recently been announced by Jefferson Chemical Company, Inc. This new product, alkyl phenol C-9, is a mixture of mon-alkyl phenols predominantly para substituted. The hydroxyl number is 253. It is a pale yellow liquid possessing a relatively high viscosity and a characteristic phenolic odor.

Alkyl Phenol C-9 is suggested for use as a nonionic detergent intermediate, in the manufacture of lubricating oil additives, and in the preparation of various resins and plasticizers. A technical bulletin is available on Alkyl Phenol C-9.

PLASTIC LUBRICANT

Hood Chemical Company, Inc., 1937 South Broad Street, Philadelphia 48, Pa. announces their development of Hoodcrest. Hoodcrest is a concentrated liquid lubricant and dispersant which can serve plastic manufacturers as a combination lubricant and cleaning material which will eliminate considerable clean-up work on the finished product. Also, Hoodcrest is non-flammable.

MIDGET CUTTER

A new type table model midget cutter with a wide 5½" x 6" throat opening for individual mounting along side of plastics injection molding machinery to handle gates, sprues, etc., from ¼" to ½" sectional thickness, dependent on type material, has just been announced by Ball & Jewell, Inc., 22 Franklyn Street, Brooklyn, New York, manufacturers of plastics patented rotary cutters.

This practical 50 to 75 pounds per hour capacity midget cutter is now the smallest grinder in the Ball & Jewell line of cutting machines, operating v-belt drive with 1 horsepower motor and occupying minimum floor space: 19" deep, 21" wide and 50" high. The new table model B & J midget cutter carries the standard Ball & Jewell features with the exception that the hopper is hinged for simplest cutter cleaning.

NBS POTTING RESIN

The National Bureau of Standards Casting Resin fills the need for a plastic suitable for the potting of certain types of electronic circuits. Uses and properties are discussed in a booklet which may be obtained for ten cents from the Supt. of Documents, U. S. Gov't. Printing office, Washington 25, D. C. Ask for NBS Circular 493.

PLASTICIZER MIGRATION

Watson-Standard Co., Pittsburgh has just received a report from United States Testing Co., Inc., Hoboken, N. J. covering tests for plasticizer migration on samples of four types of their flesh colored plastisols used in the manufacture of doll heads and doll parts.

The method followed was pressing of sample against lacquered test panel under pressure of one pound per square inch and allowing it to stand for one week at a temperature of 86°F. Examination after tert showed the test panels to be unmarred and on the basis of this test the laboratory is of the opinion that the samples tested revealed no appreciable evidence of plasticizer migration.

NYLON TOOLING DESCRIBED

Machining operations commonly used on nylon bar stock are described in a new bulletin issued by The Polymer Corp., Reading, Pa.

Tooling and recommended procedure are described for nylon machining operations. Illustrations show recommended tools for turning and cut-off work with the principal nylon formulations, FM-10001, FM-3001, FE-1044 and FE-2031.

Copies of Technical Bulletin No. 8 on Machining Nylon can be secured from The Polymer Corp., Reading, Pa.

SCRAP GRINDER

A special purpose Grinder has been designed specifically for large thin section scrap plastic articles. In many instances molders must precut large bowls, doll heads, etc. in order to feed them to the conventional type grinders. The unit is also very good for gates and sprues that are difficult to feed to a small throat unit. 10" phonograph records may be fed to the machine without pre-cutting.

This 150 lbs. per hour capacity Laboratory #251 Cutter is equipped with a 1½ H. P. motor and occupies a space of 36" x 24". Its throat opening is 8" x 8". It is manufactured by Ball & Jewell, Inc., 26 Franklin Street, Brooklyn, New York.